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“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

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“Step Out From the Old to the New”

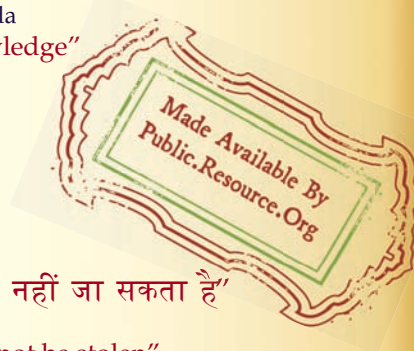
IS 13354 (1992): Ready Upma Mix [FAD 16: Foodgrains, Starches and Ready to Eat Foods]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

तैयार उपमा मिक्स — विशिष्ट

Indian Standard

READY *UPMA* MIX — SPECIFICATION

UDC 641.568 (450) *UPMA* : 641.557

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

February 1992

Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Nutrition Sectional Committee had been approved by the Food and Agriculture Division Council.

Ready *Upma* is a very popular breakfast item in South India and is gaining popularity throughout the country. It is traditionally prepared by roasting wheat *Semolina* and adding to it suitable edible oils or fat, salt, spices, roasted *Dals* and water and cooking it. Fried raisins and fried/roasted nuts, such as cashewnuts, etc, also added to improve taste.

The process of making *Upma* using the ready mix, involves bringing to boil the appropriate quantity of water, adding the mix to it and lightly heating. Due to ease in cooking, and convenience it provides the ready mix is gradually gaining popularity. It also has great potential for use by Defence for pack ration and in various expeditions.

Ready *Upma* mix may be prepared by dry blending of the roasted/cooked dried *Semolina*, dehydrated vegetables, roasted/fried *Dals*, edible fats or oils, mustard seeds, salt and other optional ingredients.

Some ready mixes contain large amounts of fats. To ensure that these do not get rancid during storage, the committee considered it necessary to lay down the maximum limit of alcoholic acidity of extracted fat. At present data on this characteristics is not available. However, investigations on this part are currently being carried out in various laboratories, and on availability of data, an amendment incorporating this limit will be issued to the standard.

In the formulation of this standard, due consideration has been given to the *Prevention of Food Adulteration Act*, 1954 and the Rules framed thereunder and the *Standards of Weights and Measures (Packaged Commodities) Rules*, 1977. However, the standard is subject to the restrictions imposed under these wherever applicable.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

READY UPMA MIX — SPECIFICATION

1 SCOPE

This standard prescribes the requirements and methods of sampling and test for ready *Upma* mix.

2 REFERENCES

The Indian Standard listed in Annex A are necessary adjuncts to this standard.

3 TERMINOLOGY

For the purpose of this standard, ready *Upma* mix shall mean a mix containing roasted/pre-cooked/dried wheat *semolina*, edible fat or oil (see 4.1.2), salt, dried and fried vegetables, roasted/fried *Dals*, mustard seeds with or without ingredients given in 4.2 and prepared by dry blending of the various ingredients.

4 INGREDIENTS

4.1 Essential Ingredients

The ready *Upma* mix shall be made from the following essential ingredients.

4.1.1 Wheat *Semolina* (*Suji*) — conforming to IS 1010 : 1968.

4.1.2 Edible Fat or Oil — vanaspati (conforming to IS 10633 : 1986) or any edible vegetable oil or ghee singly or in suitable combinations.

4.1.3 Salt — conforming to IS 253 : 1985 or IS 7224 : 1985.

4.1.4 Dried and Fried Vegetables

4.1.5 Dals — roasted/fried.

4.1.6 Mustard Seeds — conforming to IS 2323 : 1983.

4.2 Optional Ingredients

The following optional ingredients may be used for the preparation of ready *Upma* mix.

4.2.1 Spices, Condiments and their Extracts

These shall be clean, freshly ground chillies, pepper, cumin seeds, coriander seeds, cloves, ginger, garlic, turmeric, etc., either singly or in suitable combinations providing wholesome

flavour blends. These shall be free from any sign of infestation, foreign matter or any undesirable odour or taste and conforming to the relevant Indian Standards.

4.2.2 Dry fruits and nuts, such as spiced or roasted cashewnuts, groundnuts, walnuts, raisins, etc.

4.2.3 Permitted Flavouring

4.2.4 Citric Acid/Tartaric Acid — (see 9504 : 1980).

5 REQUIREMENTS

5.1 Description

5.1.1 The ready *Upma* mix shall have a uniform distribution of various ingredients. It shall be a slightly brownish-white or amber colour. It should have a characteristic flavour of roasted *Semolina* and added spices and shall be free from burnt or charred particles. The product shall be free from any unpleasant rancid or any other undesirable stored odour. The dry vegetables shall have a characteristic colour, taste and flavour of fresh vegetables and shall not have undergone browning and dis-colouration or excessive shrinkage. The material shall be free from any signs of insects or fungus infestation or microbial deterioration. The mix shall be free from synthetic colouring matter.

5.1.2 When the ready *Upma* mix is boiled with water for 6 minutes, it shall be reconstituted into freshly prepared *Upma*, free from textural and flavour defects.

5.1.3 When tested by the method prescribed in Annex B of IS 13264 : 1991, the material shall be free from dirt and other extraneous matter.

5.1.4 Salt content shall not be less than 3.5 percent and shall not exceed 4 percent when tested by the method given in Annex C of IS 13264 : 1991.

5.2 Microscopic Examination

When subjected to microscopic examination, the material shall not reveal any foreign material other than those specified in 4.

5.3 The material shall be manufactured and packed under hygienic conditions (see IS 2491 : 1972).

5.4 The ready *Upma* mix shall also comply with the requirements given in Table 1.

5.5 The ready *Upma* mix shall also comply with the microbiological requirements given in Table 2.

Table 1 Requirements for Ready *Upma* Mix
(Clause 5.4)

Sl No.	Characteristic	Requirement	Method of Test Ref to
(1)	(2)	(3)	(4)
i)	Moisture, percent by mass, <i>Max</i>	5	Annex B of IS 12569 : 1989
ii)	Total ash (on dry basis), percent by mass, <i>Max</i>	2.5	Annex D of IS 4684 : 1975
iii)	Acid insoluble ash (on dry basis), percent by mass, <i>Max</i>	0.25	Annex C of IS 12569 : 1989
iv)	Fat on (dry basis), percent by mass, <i>Min</i>	10	Annex B
v)	Acid value of extracted fat, <i>Max</i>	2.0	IS 548 (Part 1) : 1964
vi)	Dehydrated vegetables including green chillies coriander or curry leaves and other vegetables, percent by mass, <i>Min</i>	7.5	Annex D of IS 13264 : 1991
vii)	Uric acid, mg/100 g, <i>Max</i>	10	IS 4333 (Part 5) : 1970
viii)	B-N-oxalyl-amino-L-alanine	Absent	Appendix A of IS 2400 : 1976

Table 2 Microbiological Requirements of Ready *Upma* Mix
(Clause 5.5)

Sl No.	Characteristic	Requirement	Method of Test, Ref to
(1)	(2)	(3)	(4)
i)	<i>Staphylococcus aureus</i>	Absent (in 25 g)	IS 5887 (Part 2) : 1976
ii)	<i>Shigella</i>	Absent (in 25 g)	IS 5887 (Part 3) : 1976
iii)	<i>Salmonella</i>	Absent (in 25 g)	IS 5887 (Part 3) : 1976
iv)	<i>E. coli</i>	Absent (in 25 g)	IS 5887 (Part 1) : 1976

5.6 When dried fruits have been added to the ready *Upma* mix, these shall not be less than 4 percent by mass on dry basis when tested by the method given in Annex D of IS 13264 : 1991.

6 PACKING AND MARKING

6.1 Packing

The ready *Upma* mix shall be packed in flexible thermoplastic, food grade films or multilayer or monolayer construction, or their laminate with paper and/or aluminium foil so as to provide a high resistance to the passage of oxygen and water vapour and to produce an effective heat seal. The sealing shall be done hermetically with or without nitrogen flushing to retain the contents in a fresh condition. The mix may also be packed in other conventional suitable rigid containers such as tin, HDPE, glass, etc.

6.1.1 The material may preferably be packed in 100 g, 200 g, 400 g, 500 g, or 1 000 g packs or in sizes as agreed to between the purchaser and the vendor.

6.2 Marking

Each container shall be suitably marked so as to give the following information:

- Name of the material;
- Indication of the source of manufacture;
- Batch or code number;
- Net mass;
- List of ingredients used in descending order of composition;
- Method of preparation;
- Date of manufacture;
- The word 'best before.....'; and (the date to be given by the manufacturer); and
- Any other details required under the *Standard of Weights and Measures (Packaged Commodities) Rules, 1977*.

6.2.1 The container may also be marked with the Standard Mark.

7 SAMPLING

Representative samples of the material shall be drawn and the conformity of the material to the requirements of the specification shall be determined according to the procedure given in Annex E of IS 13264 : 1991.

8 TEST

8.1 Tests shall be carried out as referred to in 5.1 and col 4 of Tables 1 and 2.

8.2 Quality of Reagents

Unless specified otherwise, pure chemicals shall

be employed in tests and distilled water (*see* IS 1070 : 1977) shall be used where the use of water as a reagent is intended.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

ANNEX A

(*Clause 2*)

LIST OF REFERRED INDIAN STANDARDS

<i>IS No.</i>	<i>Title</i>	<i>IS No.</i>	<i>Title</i>
253 : 1985	Edible common salt (<i>third revision</i>)	5887	Methods for detection of bacteria responsible for food poisoning
548 (Part 1) : 1964	Methods of sampling and test for oils and fats: Part 1 Sampling, physical and chemical tests (<i>revised</i>)	5887 (Part 1) : 1976	Isolation, identification and enumeration of <i>Escherichia coli</i> (<i>first revision</i>)
1010 : 1968	<i>SUJI</i> or <i>RAWA</i> (Semolina) (<i>first revision</i>)	5887 (Part 2) : 1976	Isolation, identification and enumeration of <i>Staphylococcus aureus</i> and faecal streptococci (<i>first revision</i>)
1070 : 1977	Water for general laboratory use (<i>second revision</i>)		
2323 : 1983	Mustard, whole and ground (<i>first revision</i>)	5887 (Part 3) : 1976	Isolation and identification of <i>Salmonella</i> and <i>Shigella</i> (<i>first revision</i>)
2400 : 1976	<i>Besan</i> (<i>first revision</i>)	7224 : 1985	Iodized salt (<i>first revision</i>)
2491 : 1972	Code for hygienic conditions for food processing units (<i>first revision</i>)	9504 : 1980	L (+)-Tartaric acid, food grade
4333 (Part 5) : 1970	Methods of analysis for food-grains: Part 5 Determination of uric acid	10633 : 1986	Vanaspati (<i>first revision</i>)
4684 : 1975	Edible groundnut flour (expeller pressed) (<i>first revision</i>)	12569 : 1989	Potato French fries
		13264 : 1991	Ready <i>Khichdi</i> mix

ANNEX B

[Table 1, Item (iv)]

DETERMINATION OF FAT

B-1 APPARATUS

B-1.1 Soxhlet Extraction Apparatus

B-2 SOLVENT

B-2.1 Ethyl Ether, or Petroleum Ether — distilling below 65°C.

B-3 PROCEDURE

Transfer about 10 g of the material, accurately weighed, to a suitable thimble and extract with the solvent in a Soxhlet extraction apparatus for about 16 hours. Dry the extract contained in the Soxhlet flask, whose empty mass has previously been determined, after taring at 95 to 100°C for 30 minutes. Cool in a desiccator and weigh. Continue drying and weighing alternatively at 30 minute intervals until the

loss in mass between two successive weighings is not more than one milligram. Record the lowest mass.

NOTE — Preserve the fat for the determination of acid value.

B-4 CALCULATION

B-4.1 Fat, percent by mass = $\frac{100 (M_1 - M_2)}{M}$

where

M_1 = mass, in g, of the soxhlet flask with extracted fat;

M_2 = mass, in g, of the empty soxhlet flask, clean and dry; and

M = mass, in g, of the material taken for the test.

Standard Mark

The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act, 1986* and the Rules and Regulations made thereunder. The Standard Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well defined system of inspection, testing and quality control which is devised and supervised by BIS and operated by the producer. Standard marked products are also continuously checked by BIS for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.